



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,579	10/31/2002	Jeffrey Thomas Remillard	202-1294	9756

22844 7590 03/02/2004

FORD GLOBAL TECHNOLOGIES, LLC.
SUITE 600 - PARKLANE TOWERS EAST
ONE PARKLANE BLVD.
DEARBORN, MI 48126

EXAMINER

SOHN, SEUNG C

ART UNIT	PAPER NUMBER
----------	--------------

2878

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,579

Applicant(s)

REMILLARD ET AL.

Examiner

Seung C. Sohn

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10312002. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 1, update the cross reference.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because block diagrams (14, 19) in Fig. 1 should be labeled. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. ***Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph***, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "substantially" in claims 1, 3, 5, 10 and 18 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the

requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. ***Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns (Patent No US 5,953,110) in view of Marinelli et al. (Patent No US 5,890,796).***

Regarding claims 1, 2 and 6-9, Burns discloses the following steps of

Applicant's claim:

- a) transmitting a near-infrared light pulse to laser optics (Fig. 1, 13) at a first time (Col. 1, lines 8-12);
- b) reflecting said light pulse from said laser optics;
- c) receiving a portion of said light pulse reflected from said object (15), said portion being received at a second time; and
- d) determining a distance of said object based on a time difference between substantially said first and second times (Col. 3, lines 9-27).

Burns discloses as above, but is silent that the laser optics is a polymeric light reflector. Marinelli et al. shows in Fig. 2 a polymeric light reflector (16, i.e., thin sheet optical element) (Col. 3, lines 32-38), and discloses reflecting said light pulse from a

first reflective surface (20, i.e., manifold section) in said reflector to a second reflective surface (22, i.e., kicker section) in said reflector and reflecting said light pulse outwardly from said second reflective surface (Col. 4, lines 23-42). It would have been obvious to a person having ordinary skill in the art to provide the polymer light reflector of Marinelli et al. in the device of Burns for the purpose of directing equal intensity of light (Col. 2, lines 30-40).

Regarding claims 3-5 and 15-17, it is inherent that object is detected when any portion of said waveform has an amplitude greater than a predetermined threshold at said second time, since more light is reflected back to the detector if there is a object.

Regarding claims 10-14, Burns shows in Fig. 1 the following elements of Applicant's claim:

- a) a near-infrared light source (12) generating a light pulse at a first time;
- b) a laser optics (13) receiving said light pulse and reflecting said light pulse;
- c) a near-infrared light detector (20) configured to receive at least a portion of said light pulse reflected off the object (15), said portion being received at a second time; and
- d) a controller (11, 16, 22) operably connected to said light source and said light detector, said controller configured to determine a distance of the object based on a time difference between substantially said first and second times (Col. 3, lines 9-27).

Burns discloses as above, but is silent that the laser optics is a polymeric light reflector. Marinelli et al. shows in Fig. 2 a polymeric light reflector (16, i.e., thin sheet optical element) (Col. 3, lines 32-38), and discloses reflecting said light pulse from a first reflective surface (20, i.e., manifold section) in said reflector to a second reflective surface (22, i.e., kicker section) in said reflector and reflecting said light pulse outwardly from said second reflective surface (Col. 4, lines 23-42). It would have been obvious to a person having ordinary skill in the art to provide the polymer light reflector of Marinelli et al. in the device of Burns for the purpose of directing equal intensity of light (Col. 2, lines 30-40).

15. The system of claim 10 wherein said controller is further configured to generate a received waveform based on said received light pulse, said controller being further configured to indicate the object is detected when any portion of said waveform has an amplitude greater than a predetermined threshold at said second time.

Regarding claim 18, Burns shows In Fig. 1 a host computer (22) comprising code for inducing a light source (12) to emit a light pulse at a first time that is reflected by a polymeric light reflector toward an object (15); code for storing values indicative of a received portion of said light pulse reflected from the object at a second time; and, code for calculating a distance of the object from said reflector based on a time difference between substantially said first and second times.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Li et al. (Patent No US 5,434,754) discloses a manifold for use on a vehicle utilizing light from a remote light source.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (571) 272-2446. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SCS

SCS


THANH X. LUU
PATENT EXAMINER